



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

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COMMISSIONER

**Pike Industries
Androscoggin County
Poland, Maine
A-494-71-O-A (SM)**

**Departmental
Findings of Fact and Order
Air Emission License**

After review of the air emission license renewal application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

Pike Industries, Inc. (Pike), located in Poland, Maine has applied to amend their Air Emission License, permitting the operation of a new hot-mix asphalt (HMA) drum plant (**P724**) to replace their existing asphalt batch plant (**P709**). The existing rock crushing equipment and diesel units at the facility will not change per this amendment.

B. New Emission Equipment

Asphalt Drum Plant *

Equipment	Process Rate (tons/hour)	Design Capacity Firing Rate	Control Devices	Stack ID	Date of Manufacture
P724	400	100 MMBtu/hr, 750 gal/hr, #2, #4, #6 fuel & specification waste oil (0.5%S)	Baghouse	#1	2010

* Pike also plans to install and operate a hot oil heater rated at 2.5 MMBtu/hr based on a maximum firing rate of 17.8 gallons per hour; the hot oil heater fuel comes from the same tank that fuels the drum burner.

The HMA unit being replaced at the Poland, ME location was licensed as follows:

Asphalt Batch Plant

Equipment	Process Rate (tons/hour)	Design Capacity Firing Rate	Control Devices	Stack ID	Date of Manufacture
P709	240	70.0 MMBtu/hr, 480 gal/hr, #2 fuel, #4 fuel & specification waste oil (0.7%S)	Baghouse	#1	1956

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C. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as defined in the Department's regulations. The emission increases are determined by subtracting the current licensed emissions preceding the modification from the maximum future licensed allowed emissions, as follows:

Pollutant	Current License (TPY)	Future License (TPY)	Net Change (TPY)	Sig. Level
PM	3.1	6.3	3.2	100
PM ₁₀	3.1	6.3	3.2	100
SO ₂	16.1	28.3	12.2	100
NO _x	19.4	17.6	-1.8	100
CO	6.7	28.1	21.4	100
VOC	4.1	7.1	3.0	50

Therefore, this license is determined to be a minor modification and has been processed as such per Major and Minor Source Air Emission License Regulations, 06-096 CMR 115 (last amended December 24, 2005). With the fuel limits on the P724 Asphalt Drum Plant/Hot Oil Heater, and the existing diesel units, the facility is licensed below the major source thresholds and is considered a synthetic minor.

II. BEST PRACTICAL TREATMENT

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Definitions Regulation, 06-096 CMR 100 (last amended December 24, 2005). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in 06-096 CMR 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Asphalt Plant

The drum mix asphalt plant (P724) was manufactured in 2010 and is therefore subject to EPA New Source Performance Standards (NSPS) Subpart I for Hot Mix Asphalt Facilities manufactured after June 11, 1973.

The drum mix asphalt plant fires #2, #4, #6 fuel oils and specification waste oil, with a sulfur content not to exceed 0.5% by weight. Fuel use shall not exceed 800,000 gallons per 12 month rolling total.

To meet the requirements of Best Practical Treatment (BPT) and NSPS for the control of particulate matter (PM) emissions, the drum mix asphalt plant shall vent to a baghouse. Opacity from the asphalt batch plant baghouse is limited to no greater than 20% on a six (6) minute block average basis, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period.

Based on the above hot mix asphalt plant process rate, the maximum PM emission rate from the asphalt baghouse shall be limited to 0.03 grs/dscf (11.9 lb/hr). An initial performance test shall be conducted within 60 days after achieving the maximum production rate.

The performance of the baghouse shall be constantly monitored by either one of the following at all times the drum mix asphalt plant is operating:

1. PM detector – when the detector signals excessive PM concentrations in the exhaust stream, Pike shall take corrective action within 24 hours, or immediately if opacity exceeds 20%.
2. Personnel with a current EPA Method 9 visible emissions certification – when the opacity exceeds 20%, the hot mix asphalt plant is operating with insufficient control and corrective action shall be taken immediately.

General process emissions from the asphalt plant shall be controlled so as to prevent visible emissions in excess of 20% opacity on a six (6) minute block average basis except for no more than one (1) six (6) minute block average in a 1-hour period.

Pike may process up to 10,000 cubic yards per year of soil contaminated by gasoline or #2 fuel oil without prior approval from the Department. This limit may be exceeded with written authorization from the Department. The plant owner or operator shall notify the Department at least 24 hours prior to processing the contaminated soil and specify the contaminating fuel and quantity, origin of the soil and fuel and the disposition of the contaminated soil.

When processing contaminated soils, Pike shall maintain records which specify the quantity and type of contaminant in the soil as well as the origin and characterization of the contaminated soil. In addition, when processing contaminated soil, Pike shall maintain records of processing temperature, asphalt feed rates and dryer throughput on an hourly basis. The material shall be handled in accordance with the requirements of the Bureau of Remediation and Waste Management. Pike shall not process soils which are classified as hazardous waste or which have unknown contaminants.

C. Hot-oil Heater

The hot oil heater (**P724-1**) is used to keep the asphalt from congealing. The heater heats oil, which is circulated through the silo imparting heat to the asphalt contained in the silo. The heater has a maximum design capacity rated at 2.5 MMBtu/hr based on the maximum fuel input of 17.8 gallons per hour. The hot oil heater fuel comes from the same tank that fuels the drum burner.

The hot-oil heater will be installed in 2010; however, the unit is not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, for units greater than 10 MMBtu/hr manufactured after June 9, 1989.

A summary of the BACT analysis for P724-1 hot oil heater (2.5 MMBtu/hr) is the following:

1. Combined fuel use in the Asphalt Heater and the Drum Mix Asphalt Plant shall be 800,000 gallons of fuel per year, of ASTM D396 compliant #2 fuel oil. The facility can also fire #4 fuel oil, #6 fuel oil, and specification waste oil, with a maximum sulfur content of 0.5% by weight, based on a 12-month rolling total.
2. Low Sulfur Fuel, 06-096 CMR 106 (last amended July 4, 1999) regulates fuel sulfur content, however in this case a BPT analysis for SO₂ determined the use of 0.5% by weight is appropriate because of the fuel tank shared with the asphalt plant.
3. SO₂ emission data is based on fuel sulfur mass balance.
4. PM and PM₁₀ emission rates are based on BPT of 0.12 lb/MMBtu.
5. NO_x emission rates are based on BPT of 0.30 lb/MMBtu.
6. CO and VOC emission limits are based upon AP-42 data dated 10/98 for boilers with heat input less than 100 MMBtu/hr.
7. Visible emissions from the Asphalt Heater shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a continuous 3-hour period.

D. Stock Piles and Roadways

Visible emissions from a fugitive emission source shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour.

E. General Process Emissions

Visible emissions from any other general process (non-NSPS crusher conveyor belts, bucket elevators, bagging operations, etc.) shall not exceed an opacity of 20% opacity on a six (6) minute block average basis except for no more than one (1) six (6) minute block average in a 1-hour period.

F. Facility Emissions

Based on the following fuel limits, Pike facility emissions shall be restricted to the following annual emissions:

- 800,000 gallons per year #2 fuel oil, #4 fuel oil, #6 fuel oil and/or specification waste oil in the drum mix asphalt plant (P724) and hot oil heater (P724-1), on a 12-month rolling total.
- 20,000 gallons per year diesel fuel, (0.05% sulfur by weight maximum) in G610-1, G610-2, G610-3 and G610-4 (combined)

Total Licensed Annual Emissions for the Facility
(used to calculate the annual license fee)

<u>Equipment</u>	<u>PM</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOC</u>
Asphalt Drum Plant (P724) & Hot oil Heater (P724-1)	6.1	6.1	28.2	11.4	26.8	6.6
Diesel Engines	0.2	0.2	0.1	6.2	1.3	0.5
TOTALS	6.3	6.3	28.3	17.6	28.1	7.1

III. AMBIENT AIR QUALITY ANALYSIS

According to the 06-096 CMR 115, the level of air quality analyses required for a minor amendment to a minor source shall be determined on a case-by-case basis. Based on the information available in the file, Pike is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License Amendment A-494-71-O-A, subject to the conditions found in Air Emission A-494-71-L-R, in the amendments A-494-71-M-A, A-494-71-N-A, and in the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

SPECIFIC CONDITIONS

The following shall replace Condition (16) of Air Emissions License, A-494-71-L-R:

(16) Drum Mix Asphalt Plant (P724)

- A. Emissions from the hot mix asphalt plant shall vent to a baghouse, and all components of the asphalt plant shall be maintained so as to prevent PM leaks.
[06-096 CMR 115, BPT]
- B. The performance of the baghouse shall be constantly monitored by either one of the following at all times the drum mix asphalt plant is operating
[06-096 CMR 115, BPT]:
 1. PM detector – when the detector signals excessive PM concentrations in the exhaust stream, Pike shall take corrective action within 24 hours, or immediately if opacity exceeds 20%.
 2. Personnel with a current EPA Method 9 visible emissions certification – when the opacity exceeds 20%, the asphalt plant is operating with insufficient control and corrective action shall be taken immediately.

- C. To document maintenance of the baghouse, the licensee shall keep a maintenance log recording the date and location of all bag failures as well as all routine maintenance. The maintenance log shall be kept on-site at the asphalt plant location. [06-096 CMR 115, BPT]
- D. Opacity from the baghouse is limited to no greater than 20% on a six (6) minute block average basis, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]
- E. General process emissions from the asphalt plant shall be controlled so as to prevent visible emissions in excess of 20% opacity on a six (6) minute block average basis except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 101]
- F. Fuel use records and receipts for the drum mix asphalt plant shall be maintained for at least six years and made available to the Department upon request. A log shall also be maintained recording the quantity and analyzed test results of all specification waste oil in the dryer. [06-096 CMR 115, BPT]
- G. Pike shall be limited to the use of 800,000 gallons/year on a 12 month rolling total basis of #2, #4, #6 fuel oil and specification waste oil, with a sulfur content not to exceed 0.5% by weight in the drum mix asphalt plant. Emissions from the baghouse shall not exceed the following [06-096 CMR 115, BPT]:

Pollutant	grs/dscf	lb/hr
PM	0.03	11.9
PM ₁₀	-	11.9
SO ₂	-	54.6
NO _x	-	22.0
CO	-	52.0
VOC	-	12.8

- H. Pike may process up to 10,000 cubic yards per year of soil contaminated by gasoline or #2 fuel oil without prior approval from the Department. This limit may be exceeded with written authorization from the Department. The plant owner or operator shall notify the Department at least 24 hours prior to processing the contaminated soil and specify the contaminating fuel and quantity, origin of the soil and fuel and the disposition of the contaminated soil. [38 MSRA §608-A, and 06-096 CMR 115, BPT]

- I. Pike shall not process soils which are classified as hazardous waste or which have unknown contaminants. [06-096 CMR 115, BPT]
- J. When processing contaminated soils, Pike shall maintain records which specify the quantity and type of contaminant in the soil as well as the origin and characterization of the contaminated soil. In addition, when processing contaminated soil, Pike shall maintain records of processing temperature, asphalt feed rates and dryer throughput on an hourly basis. The material shall be handled in accordance with the requirements of the Bureau of Remediation and Waste Management. [06-096 CMR 115, BPT]

The following Conditions are new to Air Emissions License, A-494-71-L-R:

- (27) The new Hot Mix Asphalt Plant is subject to 40 CFR Part 60 Subparts A, and I and Pike shall comply with the notification and recordkeeping requirements of 40 CFR Part 60.7. An initial performance test shall be conducted within 60 days after achieving the maximum production rate.

- (28) Hot oil Heater (**P724-1**)

- A. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #1	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

- B. Emissions shall not exceed the following [06-096 CMR 115, BPT]:

Emission Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Hot Oil Heater (P724-1)	0.3	0.3	1.3	1.0	0.1	0.1

- C. Visible emissions from the Asphalt Heater shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

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D. The asphalt heater draws fuel from the same fuel tank as the drum mix asphalt plant. The fuel type and fuel limit for both units is detailed in Condition 16(G).

DONE AND DATED IN AUGUSTA, MAINE THIS 7th DAY OF May, 2010.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Brooks
DAVID P. LITTELL, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-494-71-L-R.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: March 10, 2010

Date of application acceptance: March 24, 2010

Date filed with the Board of Environmental Protection:

This Order prepared by Edwin Cousins, Bureau of Air Quality.

